

REMARKS

In the present application, claims 1-5, 14-20 and 25-30 have been previously withdrawn, and claims 7-9, 21-24, and 31-38 stand rejected. More particularly, the Examiner set forth the following rejections in connection with these claims:

- Claims 38, 7-9, 21-24, 31-37 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite with respect to the use of the term "bent";
- Claim 35 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite or suspect phrase "parallel to a plane of rotation";
- Claims 38, 7-9, 3-24, and 31-37 are rejected under 35 U.S.C. §103(a) as being unpatentable over Agetsuma in view of Miyako; and
- Claims 21, 22, 32, and 33 are rejected under 35 U.S.C. §103(a) as being unpatentable over Agetsuma and Miyako, and further in view of Castleman.

Rejections under 35 U.S.C. §112

Independent claims 31 and 38 have been amended to clarify structure of the "bent portion". As presently amended, each claim includes a manipulating knob body that is rotatable about a pivot. The manipulating body includes first and second arms extending from the pivot that are disposed at an angle with respect to one another form a bent portion. The first arm extends from the pivot form an operational portion that facilitates user operation of the manipulation and knob. The second arm extends from the pivot to form a biasing portion that facilitates biasing of the manipulating knob to return to a neutral position. Claim 35 has been amended to recite that the ~~signal changeover means includes~~ a printed circuit board is disposed facing a side portion of the ~~bend~~bent portion and ~~of the manipulating knob body, and the printed circuit board is arranged in~~ in a plane having a normal that is generally parallel to an axis of rotation ~~the rotating direction~~ of the manipulating knob as defined by the pivot. It is submitted that these amendments overcome the rejections under 35 U.S.C. §112, second paragraph. No new subject matter has been entered as a result of these amendments.

Rejection under 35 U.S.C. §103

Claims 6-9, 23, 24, and 31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. Pub. No. 2002/0066658 ("Agetsuma") in view of U.S. Pat. App. Pub. No. 2002/0033321 ("Miyako"). Applicant respectfully traverses this rejection.

Agetsuma does not teach or suggest that the knob has a bent portion, as currently set forth in claims 31 and 38, as amended. Thus its circuit board cannot be said to be mounted between a pivot point and an operational portion, as such portions are meaningless in the context of the Agetsuma device. In that regard, Agetsuma discloses a manipulating knob 6 and a connecting pin 5 where the manipulating knob 6 is rotatably and pivotally supported by the connecting pin 5. The Agetsuma specification discloses that:

The manipulating knob 6 is constituted of a knob body 10 made of synthetic resin and a knob cover 11. The knob body 10 and the knob cover 11 are bonded to each other and are integrally formed using a plurality of screws 12. As mentioned previously, the manipulating knob 6 is rotatably and pivotally supported on the support member 4 by means of the connecting pin 5 and has a free-end side thereof protruded into the inside of the space 2 from the rear surface of the pad 1c. (Agetsuma, ¶0030).

Figure 4 of Agetsuma illustrates the relationship between the connecting pin 5 and the manipulating knob 6. As shown in Figure 4, the connecting pin 5 connects the manipulating knob 6 with a support member 4. This connection is made through the shaft hole 10a formed in the knob body 10. The support member 4 is a generally fixed rectangular member, and the manipulating knob 6 pivots relative to the support member 4 about the connecting pin 5. Agetsuma clearly does not teach or suggest a manipulating knob body having a bent portion formed by first and second arms extending from the pivot at an angle with respect to one another. It does not disclose that the first arm of the bent portion extends from the pivot to form an operational portion that facilitates user operation of the manipulation knob. Nor does it disclose that a second arm of the bent portion extends to form a biasing portion that facilitates biasing the manipulating knob to return to a neutral position.

Not only is the bent portion missing in Agetsuma, but because this element is missing, there can be no printed circuit board or slide contact mounted between the pivot point and the operational portion, as set forth in independent claim 38. Although Agetsuma has a printed

circuit board 7 (Fig. 4, Agetsuma), it is not mounted between a pivot point and an operational portion. The particular arrangement of the printed circuit board of claim 38, as amended, may be used to provide advantages to the device. Applicant's specification discloses that:

[T]he printed circuit board of the signal changeover means is arranged parallel to the rotational direction of the manipulating knob body and, at the same time, is mounted on the side plate which is positioned at the side of the manipulating knob body and hence, the manipulating knob, the biasing means and the signal changeover means can be assembled in a compact form. Accordingly, the steering switch for a vehicle can be miniaturized whereby such a steering switch can be mounted on the steering wheel without restricting a mounting space for other switches which are mounted on the steering wheel. (Specification p.53, line 26 to p.54, line 10)

For example, as shown in Fig. 3 of applicant's specification, the height dimension of the of the rotary switch and the dimension from the pivot to a lower portion of the switch may be reduced. This reduction may be based on the relationship of the printed circuit board to the bent portion set forth in claim 38 and may be used to facilitate a reduction in the size of the manipulating knob. The size reduction, in turn, may render the overall unit more compact and/or allow inclusion of a larger number of individual switches, if desired. Accordingly, Agetsuma does not teach or suggest the apparatus of independent claims 31 or 38.

Miyako is also deficient and does not teach or suggest any of the elements of claims 31 or 38 that are missing in Agetsuma. Thus, combining Agetsuma and Miyako does not disclose the apparatus of claims 31 and 38. The elements that are missing in Agetsuma are also missing in Miyako.

With regard to dependent claims 21, 22, 32, and 33, the reference to Castleman in addition to Miyako is deficient because neither Castleman nor Miyako provide any of the missing features that are missing from the primary reference to Agetsuma. Accordingly, applicant submits that the claims are patentable over the Agetsuma, Miyako, and/or Castleman taken either individually or in combination.

Conclusion

In view of the above amendment and remarks, applicant respectfully submits that the claims are in condition for allowance. Should the examiner deem a telephone conference to be of assistance in advancing the application to allowance, the examiner is invited to call the undersigned attorney at the telephone number below.

Respectfully submitted,

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